

REMARKS/ARGUMENTS

Applicant would like to thank Examiner Wilkens for the helpful and courteous discussion held on June 7, 2006. During this discussion the Examiner noted the use of the term “tabs” and their absence from the drawings, and provided her view of the claim language “permanently surrounding said panel around its entire periphery.” In particular, Examiner Wilkens expressed the opinion that pivoting cover (56) of the Goyette structure met this claim limitation because the pieces of the Goyette frame were not separate pieces. See page 4, bottom, of the Official Action.

The above amendments to the specification and claims address the Examiner’s concerns and place this case in condition for allowance. In the remarks below the outstanding issues are addressed in the order they are presented in the Official Action.

With regard to the Drawings objection, Figure 1 has been amended to show tabs. The specification description of this figure has also been amended to refer to these tabs. The tabs shown in Figure 1 are illustrative only. As depicted, the tabs are located under the flat panel and provide support for the panel, as described in the specification (see *infra*). Of course, they are not limited to the placement or shape shown.

The rejection for lack of written description regarding the term “tabs” is traversed. The application repeatedly refers to tabs located on the disclosed frame structure. For example, in the paragraph bridging specification 6-7 it is stated:

As indicated previously, precise adaptation to the contours of the panel and retention by radial compression are preferably obtained by shrinking the plastic (the shelf according to the invention in this case being rather more defined in that the panel is secured to the structure by shrinking the structure (or the plastic of said structure)). Note that more generally and independently of the above definition, the present invention also covers, by way of a shelf, any shelf, particularly for a refrigerator or the like, comprising at least one panel and at least one attached plastic structure, the shelf being obtained by shrinking the structure, even if this shrinkage is not enough to result in exact adaptation to the contours of the panel. In this case, additional means may be used to secure the panel and the plastic structure, such as clipping (fitting

together, for example, as necessary, using **tabs** or lugs forming the supporting surfaces) and/or bonding (gluing), as explained later on.

Similarly, in the paragraph bridging specification 9-10 the following passage appears:

The shrinkage of the plastic allows better adaptation to the contours of the panel but may not be enough to guarantee the longevity of the assembly (there may still be some clearance at certain points along the interface between the structure and the panel or insufficient radial compression to hold the panel). In this case in particular, the integrity of the assembly in terms of mechanical strength and/or sealing may be ensured jointly or alternatively by other means such as clipping and/or gluing. For example, **tabs** or tongues or lugs may be provided on the structure to hold the panel by clipping, the panel then being inserted, generally by force, between the **tabs** or tongues or lugs and the remainder of the structure before the structure has fully shrunk. In an advantageous mode of assembly, the **tabs** or tongues or lugs **are on the underside of the structure and also act as supporting surface for the panel**, the panel being inserted (generally by force) from the side of the structure that constitutes the underside of the shelf in the position of use (the structure in this case possibly being inverted during assembly or possibly leaving the mold in an inverted position). This method of assembly on the underside may also be used with advantages independently of the shrinkage of the structure.

These disclosures are clearly consistent with the claim limitation “a unitary polypropylene structure comprising supporting tabs on an underside thereof,” as the specification discloses tabs as flat-panel supports that make up a part of the claimed structure. In view of the specification support for this claim limitation, the rejection should be withdrawn.

The enablement rejection regarding the limitation “a compressive lateral pressure of 5-15 MPa between an edge of said panel and said polypropylene structure” should similarly be withdrawn. The specification explains how to make a propylene panel that provides this compressive pressure. In short, by choosing the plastic material and the as-molded (hot) size of the frame structure in accordance with the teachings of the present specification one obtains, upon shrinking, a compressive lateral pressure of 5-15 MPa between an edge of the panel and said polypropylene structure. This pressure can be measured in any conventional way, such as by an indicator or gauge.

Specifically, application page 6, lines 10-26 explains:

As an alternative to or at the same time as the adaptation to the contours of the panel, the plastic structure also presses the edge of the panel (or exerts radial pressure on the panel). The plastic structure holds (or retains) the panel by compression of its edges (at least in part, particularly at least part of the two opposing sides), which gives the association better rigidity and longevity. This pressure may be obtained mechanically by force-fitting (that is to say exerted by forcing) and/or may be obtained advantageously by shrinking the plastic, as explained below. In the preferred embodiment where it is obtained by shrinking the plastic structure, the force compressing the structure onto the edge of the glass is generally of the order of a few MPa, preferably at least 5 Mpa, and does not exceed 15 MPa, for example is of the order of 8 to 10 MPa.

This shrinking of the plastic structure is explained at, e.g., specification page 7, lines 9-22:

Depending on the plastic or plastics used to form the plastic structure, shrinkage may be performed by cooling and possibly by changing the state of the plastic (for example changing to the semicrystalline state with internal reorganization of the material) and occurs to a more or less important extent. The desired shrinkage is generally at least 0.25% (with respect to the width and/or the length) of the structure and advantageously at least 0.5% and does not exceed 2% (advantageously does not exceed 1.5% or even, as the case may be, 1.2%) of said width (and/or length) so as to avoid visible deformation of the walls and a deterioration or unattractive appearance of the assembly.

Notably, the specification provides a specific example of how to provide a compressive lateral pressure of 5-15 MPa between an edge of the panel and the polypropylene structure at specification page 16, line 7ff, referring in part to application Figure 2:

This assembly is obtained as follows: polypropylene granules (preferably filled with talc to improve the mechanical strength of the polypropylene) are heated in a plasticizing chamber of an injection-molding machine to a temperature that is high enough that the plastic can be injected and the molten material is injected into the mold or injection-molding machine to obtain the semi-finished product which, through the shrinkage of the plastic, will yield the structure 2. The material cools in the mold and solidifies from 160 °C in the form of a semicrystalline product. When the mold is open to remove the molded frame, the plastic reaches about 70°C. The shrinkage of the plastic then begins to occur to a significant extent. In the 4 minutes (and preferably in the 1 to 2 minutes) following removal from the mold, the surface 4 of the frame on which surface the panel is to rest possibly undergoes a surface treatment (for example of the plasma type), is preferably coated with adhesive (it

being possible for handling to be automated) using an elastic adhesive (a channel--not depicted--may possibly be provided to accommodate the adhesive on the surface) and the glass panel is placed on the frame (position a of the frame depicted in fine and dotted line in FIG. 2). Shrinkage then continues to occur (about 75% of the shrinkage takes place in the first 15 minutes, it being possible for final shrinkage to take several hours) until the frame reaches its definitive shape (position b of the frame depicted in thick line in FIG. 2). In this state, the frame mates with and mechanically holds the glass on its edge 3, with a compressive force of the order, for example, of 9 MPa exerted on the edge of the glass. In a frame of the order of 420 mm wide, the final shrinkage may, for polypropylene, be as much as 4 mm. The assembly obtained is particularly robust and meets the safety standards.

It is thus clear that the application as filed provides an enabling disclosure for the invention as claimed and fully supports and teaches one of ordinary skill in the art how to produce an assembly as claimed where a compressive lateral pressure of 5-15 MPa between an edge of said panel and the polypropylene structure is provided. In view of this, the rejection should be withdrawn.

The rejection of Claim 26 should be withdrawn as this claim has been amended to refer to a shelf.

The three obviousness rejections based on Goyette (U.S. 6,045,101; "Goyette '101") are traversed. Goyette '101 is the same, with regard to the slidably removable shelf/panel structure, as previously cited U.S. 6,773,651 to Goyette.¹ The reference fails to disclose a "structure permanently fixedly surrounding said panel around each side thereof and permanently fixedly contacting at least a portion of the top face of the panel on at least a part of each side thereof, said structure permanently fixedly applying a compressive lateral pressure of 5-15 MPa between an edge of said panel and said polypropylene structure."

Goyette relies upon cover 56 which is pivotally attached to the frame and which holds the sheet of glass in slot 46 only when closed. See, e.g., Figure 6 of the reference and the paragraph bridging columns 4 and 5 of the reference. Note also Figures 7 and 8, showing pivoting cover 56, as well as column 3, lines 1-6 of the reference which makes it clear that

¹ U.S. 6,773,651 is a divisional of U.S. 6,045,101.

the Goyette structure does not permanently fixedly surround the panel but instead is constructed such that the sheet is freely slidable in a groove within the frame when the slot is open and the cover is not latched. In this regard, the term “fixedly” has been added to the claim which, in combination with the term “permanently,” describes an unchangeable, stationary structure. This language has also been used in describing the way in which the claimed structure covers and contacts permanently and fixedly a portion of the top of the panel on at least a part of each side thereof, and the way in which it provides the compressive lateral pressure. This is not the case in Goyette: when the pivoting cover is open the panel is not surrounded, and there is no permanent, fixed contact with a portion of the top face of the panel on at least a part of each side thereof. Moreover, the Goyette assembly cannot permanently fixedly apply a compressive lateral pressure of 5-15 MPa between an edge of said panel and said polypropylene structure even if it were engineered to do so with the pivoting cover closed. Of course, there is no teaching in Goyette as to the application of such a pressure.

By these claim amendments Applicant has clearly distinguished the present invention from any arguable accidental overlap with the article disclosed in Goyette, which refers to a shelf that is entirely different from the present invention. Caruso and Cherry fail to make up for that lacking in Goyette, and thus the rejections for obviousness, all predicated on the disclosure of Goyette, should be withdrawn.

Application No. 10/644,731
Reply to Office Action of June 1, 2006

Accordingly, and in view of the discussion and the differences between what is claimed herein and what is disclosed by the prior art, Applicant respectfully requests that the outstanding rejections be withdrawn and that this case be passed to Issue. Should any questions remain, Examiner Wilkens is requested to contact the below-signed attorney who will expedite any further necessary changes.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.



Richard L. Treanor
Attorney of Record
Registration No. 36,379

Customer Number
22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
(OSMMN 06/04)